

REMARKS

Claims 75-91 are pending in this application. Claims 75-77, 79, 81, 88, and 89 have been amended. Claims 1-74 were previously cancelled as pursued in the parent case. Please consider the following remarks.

Claim 89 is objected to because of an informality in language. This claim has been amended and the objection is respectfully requested to be withdrawn.

Claim 81 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is respectfully traversed. Based on the amendment to this claim, the rejection under section 112, second paragraph, is respectfully requested to be withdrawn.

Claims 75-85 and 88-91 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,087,674 ("Ovshinsky et al.") in view of U.S. Patent No. 6,017,818 ("Lu") and U.S. Patent No. 5,877,087 ("Moseley et al."). This rejection is respectfully traversed.

As expressed in the Office Action at page 3, the primary reference Ovshinsky et al. provides no disclosure as to what specific method is or need be used to deposit a layer incorporating a first metal, aluminum, nitrogen, and boron so as to form structural layers 6 or 8A shown in FIG. 1 of the patent. Ovshinsky et al. explains that these layers (6 and 8A) are contacts adjoining a memory material such that the contacts can deliver an electrical signal to at least a portion of the memory material (col. 9, ll. 25-43). Ovshinsky et al. further discloses that to deliver this electrical signal, each of the contacts (6 and 8A) is "adjoining" the volume of memory material (col. 9, ll. 39-40). Ovshinsky et al. defines the term "adjoining" to mean that at least a portion of each contact (6 and 8A) is touching the memory material. This description of the adjoining

nature of the contacts (6 and 8A) is the extent to which Ovshinsky et al. discloses how these layers (6 and 8A) are to be formed or shaped and what preferred structural properties the layers are to have.

Ovshinsky et al. makes absolutely no mention of the layers making contacts 6 and 8A preferably having good conformability or low defect density. Nothing in the disclosure of Ovshinsky et al. implies that good conformability or low defect density is important in any structural aspect of the devices or layers thereof disclosed therein. Nothing in the disclosure of Ovshinsky et al. suggests that a process such as that disclosed by Lu should be or might be desirable to be used to form layers 6 and 8A. Instead of use of a delicate CVD technique, Ovshinsky et al. instead suggests a preference for no more than a more crude technique of deposition of layer 8A followed by deposition of an insulator, which is etched to expose layer 8A. This does not suggest the need for any alternative.

No methods or structures are disclosed by Lu as being suitable or useful in forming a phase change memory device or contacts for such a memory device (as disclosed in Ovshinsky et al.). There is no suggestion or even implication in Lu that its process could or might be used to form the "adjoining" contacts 6 and 8A of Ovshinsky et al. And, as discussed above, nothing in Ovshinsky et al. suggests that incorporating the teachings of Lu might be necessary or desirable.

Mosely et al., like Lu, fails to provide any motivation for its combination with Ovshinsky et al. for the purpose of depositing Ovshinsky et al.'s "adjoining" contacts 6 and 8A by CVD. Mosely et al. does not teach or suggest that its methods or structures are suitable or useful in forming a phase change memory device or contacts for such a

memory device. And, as with Lu, nothing in Ovshinsky et al. suggests that incorporating the teachings of Moseley et al. might be necessary or desirable.

The mere fact that references can be combined or modified is not sufficient to establish prima facie obviousness, the prior art must also suggest the desireability of the combination. M.P.E.P. § 2143.01 (citing In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990) (emphasis added). A statement that modifying or combining the prior art to meet the claimed invention would have been well within the ordinary skill of the art (see, e.g., Office Action, page 4) at the time the invention was made because the references teach that all aspects of the claimed invention were individually known is insufficient for an obviousness rejection without an objective reason to combine the references. Id. (citing Ex parte Levingood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). There is no motivation evidenced in the cited references themselves for selectively combining their teachings in the manner expressed in the Office Action nor would there have been any practical reason to deviate from the disclosure of the primary reference; i.e., "no objective reason."

"It is difficult but necessary that the [examiner] forget what he or she has been taught . . . about the claimed invention and cast the mind back to the time the invention was made." M.P.E.P. § 2141.01(III) (citing W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Without reliance on improper hindsight based on use of the present application as a road map, here the references' disclosures would not have been combined; the primary reference presents no reason to do so. A person of ordinary skill in the art would not have been motivated to combine these references to produce the claimed invention because each reference addresses a different problem and provides different advantages.

Because of the lack of motivation to combine Ovshinsky et al., Lu, and Mosely et al., the subject matter of the claims would not have been obvious over these references, which individually do not teach or suggest such subject matter. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claims 75-85 and 88-91 be withdrawn.

Claim 86 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ovshinsky et al. in view of Lu and Mosely et al. and further in view of U.S. Patent No. 6,313,035 ("Sandhu et al."). This rejection is respectfully traversed. Claim 86 depends on claim 75, which has been discussed above as being patentable over Ovshinsky et al., Lu, and Mosely et al. Since Sandhu et al. does not provide motivation to combine any of these references with Ovshinsky et al. and because individually, none of the references teaches or suggests the subject matter of claim 86, claim 86 is patentable over these references. Furthermore, since Sandhu et al. is prior art only under 35 U.S.C. § 102(e), (f), or (g), and because there was an obligation to assign to Micron Technology, Inc. the subject matter of Sandhu et al. and the subject matter of the present application at the time of invention of each, the existence of Sandhu et al. cannot preclude patentability of the present claims pursuant to 35 U.S.C. § 103(c). Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claim 86 be withdrawn.

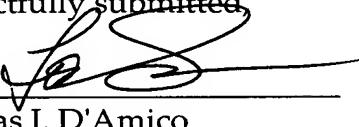
Claim 87 stands rejected under 35 U.S.C. § 103 as being unpatentable over Ovshinsky et al. in view of Lu and Mosely et al. and further in view of the Ward et al. publication. This rejection is respectfully traversed. As with claim 86, claim 87 depends on claim 75, which has been discussed above as being patentable over Ovshinsky et al., Lu, and Mosely et al. Since Ward et al. does not provide motivation to combine any of these references with the primary Ovshinsky et al. reference and because individually, none of the references teaches or suggests the subject matter of

claim 87, claim 87 is patentable over these references. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claim 87 be withdrawn.

In view of the above amendment and remarks, applicant believes the pending application is in condition for allowance. A Notice of Allowance for all pending claims is respectfully requested.

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